GARDEN AND FOREST.

PUBLISHED WEEKLY BY

THE GARDEN AND FOREST PUBLISHING CO.

OFFICE: TRIBUNE BUILDING, NEW YORK.

Conducted by . . . . . Professor C. S. SARGENT.

ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE AT NEW YORK, N. Y.

NEW YORK, WEDNESDAY, MAY 18, 1892.

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The Preservation of Natural Scenery.

MORE than two years ago Mr. Charles Eliot called attention, through these columns, to the fact that within ten miles of the Boston State House there were several surviving fragments of the primitive New England wilderness, which possessed uncommon beauty, and more than usual refreshing power. One of these was the steep moraine of Waverly, set with its group of mighty Oaks; another was at the upper falls of the Charles River, where its rugged banks are covered with dark Hemlocks. Two others were groves of great White Pines, the tree which the forefathers of New England blazoned on their flag, and another was a bolder-strewn hillside which commanded a distant view of the ocean. Scenes of this kind in the older portions of our country are rapidly disappearing before the axe and fire, and carelessness of visitors and campers whose destructive invasion soon robs them of all their poetic charm. Mr. Eliot suggested that some association should be formed to protect places of this sort, and he argued with force that while lovers of art in great cities had shown themselves willing to found museums where select works of painting and sculpture were kept for public exhibition, lovers of nature who felt that natural scenery supplied a pure and elevating enjoyment as well as an education in the love of beauty, which was at least as valuable as that afforded by cast or canvas, might well unite in rescuing from destruction these choice bits of scenery so that they could be held secure for the delight and instruction of successive generations. The national Government has recognized the force of sentiment in this direction by setting apart the Yosemite Valley and the Yellowstone Park, and by empowering the President to reserve certain forest-areas as public possessions forever. By special enactment the state of New York has acquired possession of Niagara Falls, and by another special act Chittenango Falls has been protected from destruction and vulgarization. But we argued then that isolated efforts would avail little in comparison with organized association, and finally some public-spirited citizens of Massachusetts prepared a plan which has since then been embodied in a state enactment. From time to time we have given reports of the progress of this movement, and we have now received the *First Annual Report of the Trustees of Public Reservations*, which furnishes strong ground to hope that, as the machinery of the law is understood, the intelligent and patriotic people of that state will see to it that many scenes of natural beauty and historic interest, now endangered by private occupation, will be rescued and dedicated to public use forever.

The act incorporating the Trustees of Public Reservations enables them to acquire and hold by gift, purchase or otherwise such real estate as may be worthy of reservation and to keep such property open to the public. According to the report, Massachusetts is shamefully lacking in spaces reserved for enjoyment by the public. The cliffs and beaches of the seashore, the mountain-tops of the interior and almost every scene of special beauty in the state are passing into the ownership of persons who hold them for their private pleasure or for the profit which may be reaped from fees collected from visitors. As the population grows, the destruction of the most beautiful passages of scenery which remain will go on more rapidly, so that the committee did well in the beginning to explore the field and secure some definite information as to the actual situation. Mr. J. B. Harrison was engaged to go through the seashore townships of the state and to discover to what places on the shore the public had a right to resort and what further provision was needed in this direction. The interesting letters from Mr. Harrison, which were published in this journal last year, are reproduced in this report, and we need not repeat the story of public holdings which have been assaulted and invaded until over a large portion of the coast there are few places of any kind to which the people can repair without the danger of being arraigned as trespassers. It is to be hoped that this work of examination will be extended throughout the state, so that a record can be made of all the beautiful and memorable places which it will be advisable to secure as public property. As it is, many other places which are notable for historical or literary associations or romantic beauty are mentioned, and the hope is expressed that this permanent Board of Trustees will find means to secure and protect them.

The first actual gift to the Trustees is one by Mrs. F. H. Tudor, of a diversified tract of woodland of some twenty acres in the south-eastern part of Stoneham. This is situated so that it will serve as a delightful retreat for a large population in a thickly settled district. A second proposal comes from a gentleman who expresses his desire to present one of the most interesting groves near Boston, and to give it into the keeping of the Trustees in memory of a young man who had a singular love for all natural beauty. The committee believe that, in the future, there will be many interesting examples of natural landscape preserved *in memoriam*, and it certainly is a beautiful idea to have a living landscape religiously guarded for this purpose as a monument much more impressive and enduring than any work in marble or stained glass. A third suggestion comes from one the name of whose ancestors is permanently attached to a picturesque situation, which will make a useful and handsome public reservation. There can be little doubt that many other places identified with honored names can be found which can be permanently preserved under the care of this Board.

Altogether, the formation of this Society and the energetic and broad-minded way in which its work has begun are most encouraging, and too much credit cannot be given to the originators and promoters of the movement, and especially to Mr. Eliot, who seems to have been most active in the enterprise. The single fact, that a way has been opened for securing places of recreation and assembly for the throngs in the rapidly growing cities and towns of Massachusetts, is of itself a matter for congratulation.

But of still greater importance is the fact that the refreshing and uplifting influence of natural scenery is recognized as an actual and practical truth. The humanizing influence of historic association may well be coupled with the soothing and healing charm of natural scenery, because neither of them appeals directly to any sordid or purely material interest, but to our nobler impulses and passions. The home of Washington, the winter camping-ground at Valley Forge, the beautiful old colonial mansion and grounds at Morristown, which was once the headquarters of Washington, address the same class of emotions as do the Natural Bridge of Virginia or the Big Tree-grove of California. They all minister in their degree to the mental and moral health of communities. In this country there are no remnants of royal hunting-parks for popular resort, and few public footpaths even which lead across private lines. As a nation our life has been so short that places of historic interest are few compared with those in the Old World; and broad as is our national domain, the scenes of natural beauty which are not private possessions are more rare than they are in countries with a much denser population. This Massachusetts movement ought to be contagious, for there are few states in which a special act of the Legislature is not needed whenever any land is acquired for public use. Of course, there must be a commanding public sentiment behind any act like this one creating the Board of Trustees of Public Reservations. As the report sets forth, the function of this Board is "to facilitate" the preservation of beautiful and historical places, and the appreciation of the value of such places, and the desire to secure them, must precede and make possible any action of the Board. When this sentiment comes in the fullness of its power it will not only manifest itself by securing and protecting by law a few tracts here and there, but it will be seen in a reverent regard for natural scenery over the entire face of the country. It will ensure not only intelligent treatment of these reservations, but it will help to protect every pleasing prospect from being marred, and it will act as a sensitive public conscience to protest against the obliteration and defacement of natural beauty and the desecration of spots that are hallowed by historic memories wherever they are found.

"Every one who has encouraged or even permitted the natural growth of his filial love for mother nature loves trees. Occasionally some such son or daughter has been carried so far by this fondness as to learn something about our trees and to know them for their own sakes, and many more have wished for some royal road to a knowledge of them. Some of these may be glad of the assistance of definite information concerning just what trees grow within easy walking distance of their homes, and just where such can be seen."

These sentences are from the introduction to a series of papers on Amherst trees which Mr. J. Ellis Humphrey is to contribute to *The Amherst Record*, the first part having appeared in its issue of the 4th instant, and it is this sort of assistance which the author proposes to offer to his fellow-townsmen, and to give them an annotated directory of the species of trees to be seen within a radius of a mile from the post-office of Amherst, Massachusetts, after the fashion of the papers originally contributed by Mr. John Robinson to *The Salem Gazette*, and lately published by the Essex Institute in a volume entitled *Our Trees*. Of Mr. Robinson's work we have spoken more than once, and we are pleased to notice that an authority of such rank as *Nature*, after stating that the book makes no pretense of being a scientific treatise, adds that "it is a series of homely chats about trees by one who knows and loves them, and, therefore, by one who cannot help telling you something worth learning, even though it be by the way and merely incidental."

The multiplication of these popular essays about our trees is a hopeful sign. It is surprising how little most persons really know about the trees among which they have lived from childhood, and almost everybody would be grateful for some accurate information concerning them. If there are people so unfortunate as not to care to know about nature, it is possible, perhaps, to arouse their slumbering senses and to invigorate their faculties by pointing out the beauties and the uses of natural objects, of which, for this purpose, trees are the most available, as being almost everywhere present, of large size, picturesque appearance and general usefulness.

The more people, and especially the more children, there are in the United States who have learned to know and love and respect trees, the better it will be for the future of the nation. Our prosperity is dependent on the preservation of our forests. A forest is only an aggregated mass of trees. When we come as a people to know and appreciate and love trees we shall learn to love forests, too; and once loving them, we shall appreciate their value, and efforts to preserve and maintain them and make them useful and productive for all time will then be a comparatively easy task. But to do this a whole generation of Americans must be educated. The lesson must begin in the cradle, and it must continue year after year until our people love trees and know their value as well as they know the Constitution of the United States and their rights as citizens. It is for these reasons that every addition to our knowledge on this subject is valuable, and we therefore welcome the appearance of such papers as these Mr. Humphrey is publishing, and which we hope later to see gathered together in a handy volume which will serve as another text-book for the people of New England.

American Conifers in Scandinavia.

Our correspondent, Dr. C. E. Hansen, of Copenhagen, who has charge of one of the richest collections of coniferous plants in northern Europe, sends us the following notes relative to certain American species in Scandinavia:

Sequoia gigantea has been tried in Norway in several places along the coast between Christiana and Molde in latitude 62° 44′ north. In the botanic garden at Christiana a specimen six feet high when planted stood for several years, always losing in winter the growth of the previous season, so it is not probable that it will prove hardy there. In a garden at Balestrand a Sequoia about three feet high was planted in the spring of 1876; in the severe winter of 1880–81 the leader was killed back, although a new one was afterward formed, and in September, 1885, the tree had attained a height of seventeen feet and ten inches. In south-western Sweden the Sequoia seems hardy, although it is probably not to be found farther north than latitude 57° 42′.

Thuya gigantea occasionally suffers from cold at Stockholm, but T. occidentalis is hardy at Upsala in latitude 59° 52′ north; on the west coast of Finland it can be found as far north as 63°, and is said to grow as far north as 65° 51′. Taxodium distichum is not hardy in southern Norway, and in Sweden it is rare and probably is not cultivated farther north than the southern part of the kingdom. Dr. Schuhueler, in his *Viridarium*, says of Abies Fraseri, that he has never seen this species anywhere in Norway except at Molde, in 62° 44′ north, and in the botanic garden at Christiana, where formerly there were two plants. The tallest of these died in the summer of 1881, its roots having reached the wet subsoil. This specimen had produced good seeds for a number of years and was forty-five feet high, with a spread of branches of thirteen feet on the ground, and was forty years old. In Sweden this species is hardy at Stockholm, and is probably hardy in St. Petersburg.

In southern Norway plants of the Douglas Fir (Pseudotsuga taxifolia) may be seen fifty feet in height. In Sweden it is hardy at Stockholm, as is Pinus rigida. Pinus Strobus has been planted in many places on the coast of Norway up to latitude 63° 26′ north, where it is hardy, and it may be expected to thrive even farther north. The largest plant in Norway is near Christiana, at Bagstad, and is about one hundred years old. This plant is eighty feet high, with a trunk circumference of more than six feet. Near Stockholm, in the park of the royal castle at Drottingholm, several fine specimens of this species are found. When I visited these trees I did not take their exact measurement, but observed that my arms would

not reach more than half around the trunks. Other specimens of this tree, all of about the same size, are to be found in Norway.

Pinus Jeffreyii has not been tried in Norway except in the botanic garden at Christiana, where there is a specimen fifteen years old and six and a half feet high. In Sweden this species is hardy in the south, as it is at Stockholm and at St. Petersburg. P. ponderosa is hardy in Sweden at Alwarp and at Gathenbourg. P. cembra grows well in southern Sweden, and in the vicinity of Stockholm increases in height at the rate of more than a foot a year. P. Laricio Austriaca is occasionally planted in Norway in the neighborhood of Christiana and occasionally as far north as 68° 12' north, where for a number of years it has proved hardy. The largest specimen I have seen in Norway stands in the botanic gardens at Christiana. It was planted in 1842 when it was a foot high; it is now thirty-eight feet high, with a trunk four feet in circumference. It has also proved hardy in the neighborhood of Stockholm and in Finland.

Quaker Burial Grounds.

THE final resting-places of the Society of Friends show the same severe and simple taste which characterizes their homes and ways. Repose and quiet are the keynotes of their well-ordered lives, and restfulness pervades the unadorned grounds where the plain people sleep their last sleep. The original custom was to have no stone to mark the grave of a member of the Society; and not even a mound to indicate the spot where a dead Friend was laid. Records of locality were, however, kept by the meeting, so that a man could know just where his family was interred.

There are some old burying-grounds in Pennsylvania where there was formerly only a plain stretch of greensward with a few trees, but for the last fifty years the custom of putting small stones to mark the burial spot has prevailed. In a very old ground at Abington, Pennsylvania, I found no stone earlier than 1840, showing that before that time they were not used, while rows upon rows of mounds, unmarked, showed where the earlier forefathers of the hamlet lie unchronicled. In another old grave-yard in Philadelphia itself, at Seventeenth and Cherry Streets, there are but few stones, and scarcely any signs of graves. Groups of trees and shrubs shade the enclosure, and the grass is green in this ancient spot, and dotted with small wild flowers. Around it circle brick walls of buildings, but the yard itself, which occupies a city square, is verdant and secluded. Many of the dead have been removed from this spot to larger suburban cemeteries, but some sunken stones still show where others lie undisturbed, and the turf is growing over many an unindicated grave.

The stones themselves in this, as in the other grounds I visited, are about eighteen inches wide, and but six or eight inches high. Upon the sides, sometimes upon the narrow upper edge of the stone, are chiseled the name of the deceased and the day and year of birth and death. On one stone only, among all that I saw, was there any other inscription, and that was a pathetic line from a heart-broken wife. On one other modern stone was the tiny reclining figure of a boy reading, the memorial of a deeply mourned son; but these were the only departures I observed from the plain severity of the rule.

There is a dignity in this quiet and unostentatious treatment of the dead which appeals to the mind as worthy and befitting. No "storied urn and animated bust" here records the fame and glory of the sleeper. Dust they are, and unto dust they return, and their little lives leave no haughty record of achievement. Peaceful are these old grounds, with their formal lines of trees, their unobtrusive stones, their stretches of green grass, and the quiet old meeting-houses standing beside them. The Abington meeting-house is situated in a fine grove of Oaks and Maples, somewhat disfigured by the unsightly sheds that serve to shelter the carriages of the worshipers, and through this we pass into the stiff enclosure behind the building, where the dead Friends are laid under the branches of spreading trees in silent array. Beyond the highway rise the great woods of Alverthorp, which add to the seclusion of this retreat from the world.

Another day I strolled up the quaint main street of Germantown, bordered with venerable houses, and found my way to the old ground that lies behind and around the orthodox Friends' meeting-house. Here are more overshadowing trees, and some of the graves are overgrown with English Ivy that has straggled from the wall and covered them with a dark green drapery, that must be put aside to read the names upon the gray and blackened marble. Wild flowers bloom here unmolested amid the turf, starring it with timid color. It was the close of the Fourth Day Meeting, and groups of men in broad-brimmed hats, and of women in close gray bonnets, were emerging from the old stone building and softly wending their way homeward, with friendly hand-shaking and quiet words to each other. The girls and boys of the Friends' school were playing gayly in the sunshine, unchecked by the neighborhood of the dead. New houses stand unseparated, even by a fence or wall, from the burial ground, so that their groups of trees seem to form a part of it. As I came back I looked in at the windows of the old place of worship, where I have often sat in former days, and saw it still the same. The whitewashed walls, the rows of unpainted benches with gray cushions, the raised gallery for the preachers and elders of the meeting, the well-known air of cleanliness and quiet, of silence and recollection—all as of yore. The breeze was soft and spring-like, the birds caroled in the overhanging branches, the voices of children rang in the air, the dead slept peacefully outside, and I thought with tenderness of those beside whom I had sat in this venerable sanctuary who now lie beneath the sod, while their hallowed memory lives with a younger generation, perhaps straying from the simple and austere faith which, having fulfilled its mission, by preaching equality and liberty and the soul's direct communion with its Maker, is passing away from among us—the more's the pity, since the noble lessons of self-restraint, of order, of tranquillity of mind, of patience and simplicity, which its believers preached in word and life can never be outworn. The trouble is that it is a religion for the saint rather than the sinner, and demands the elect rather than the rank and file of struggling humanity for its members, and hence is little suited to a roystering world that desires praise, and noise, and glory, and a flaring record of life upon its tombstones.

As I passed, on my return, a modern cemetery crowded with monuments of unequal heights, with shafts and obelisks, and cenotaphs and sarcophagi in dire confusion, the ground splotched with gaudy flower-beds and blazing with color, I thought how much nearer to beauty was the idea of the Society of Friends, to whom a burial ground was a solemn lesson, not a spot for showy adornment, whether of marble or of herbage, but one where repose and silence should prevail, and no temptation to idle curiosity mar the serious scene.

Surely in the home of the dead there should be quiet and restfulness, rather than hubbub of color and violence of form, and we may well learn a lesson in taste from those who, believing in an unchanging fashion, mark the spot where lie the remains of those they love with the simplest record, the most unobtrusive head-stones, and write an epitaph only in their own faithful hearts.

Hingham, Mass. *M. C. Robbins.*

Notes of a Summer Journey in Europe.—XV.

AFTER a week spent in the Jardin des Plantes its treasures can hardly be said to be more than glanced over, but where one has only two weeks to devote to the botanical and horticultural places of interest in and about Paris it is well to give some of the time to an examination of collections and institutions outside of the Muséum. Among many others, the park of the Petit Trianon, the favorite garden of Marie Antoinette, is likely to prove satisfactory to the admirer of fine trees and natural beauty. Many of the botanical treasures collected by the elder Michaux in North America were first brought here to enrich the Queen's garden. The gardens of Versailles, as a whole, may be more interesting to many persons than this little corner of it, but the formality of the great gardens of the palace, masterpieces as they are called, proved tedious and uninteresting to me. This is or was, beyond question, a great work, and withal an enormously expensive one, a work which probably contributed its small share in bringing about the Revolution. In its imperial days, too, when maintained in immaculate order, it no doubt seemed a very paradise to its frequenters. But, apart from its present partial neglect, how dreary and monotonous the gardens, formally clipped trees and straight-cut vistas seem to-day. The dry fountains, straight-edged canals, the geometrical figures and similar arrangements are a weariness to the eye, and one's sympathy goes out to the lines of trees, seen everywhere in the vicinity of the palaces, which, we are told, are cut and clipped in order to harmonize with the style of architecture of the buildings. Little wonder that Marie Antoinette preferred her "English garden," as she called it, and the park of the Petit Trianon for an occasional secluded retreat.

In the immediate vicinity of the little palace or château, on the side adjoining the Grand Trianon, the French or formal style of gardening prevails, and it is behind this that we find

the more secluded and beautiful tract which was laid out as the "English garden." Almost every visitor to Paris goes to Versailles, but after a weary pilgrimage of sight-seeing in palaces and show-grounds few get beyond the edge of the Petit Trianon. The picturesque dairy, boudoir and pavilion, built more than a century ago, now show unmistakable signs of deterioration and decay, but, with few exceptions, the noble trees remain in fine health and vigor. A Lombardy Poplar, which a label tells us was planted by Marie Antoinette in the reign of Louis XV., was broken by the wind in 1880, and now has only one green spot left on the side of its trunk. This little remnant is kept alive, and in connection with the roots, by a narrow living strip a few inches in width. The remainder of the trunk, six feet in diameter in its widest part, is quite denuded of bark and so decayed and hollowed out that only a mere shell remains. Cedars of Lebanon, Zelkowa crenata and Sophora Japonica are among the best examples of introduced Old World species of trees in the park. It is said that the Sophora does not mature fruit here.

Through the industry of many of the early botanical explorers and collectors North American trees have a fine representation in the collection; in fact, this is probably one of the best places in France to see certain species. Here may be seen fine rugged old specimens of Sassafras and of Ash-leaved Maples, and vigorous trees of the Bitter-nut Hickory, Hicoria minima (Carya amara). The common Catalpa bignonioides, said to have been planted in 1726, is two feet in diameter, while our North American Red Mulberry (Morus rubra) has a trunk nearly as large and is a broad-spreading specimen, whose age is attested by its moss-covered limbs.

A Tulip-tree, to which a label is affixed bearing the date of 1663, is a fine example of this species, having a trunk two and a half feet in diameter; a Red Oak, said to have been planted just two hundred years ago, has a stem three feet through, and trees of the American Linden have attained fine proportions. They are, however, very much affected by Mistletoe, which causes irregular knots and swellings on the branches and limbs. Its effects at first give the foliage a sickly appearance, and later often causes the death of the affected limb. Great globular masses of the Mistletoe also seriously infest some of the large Poplars, but Catalpas and some other kinds of trees in the vicinity appear quite free from the parasite.

The visitor here has an excellent opportunity to study "knees" of the Bald Cypress (Taxodium distichum) of our southern swamps, of which there are some very handsome tall and thick-stemmed trees, said to be over two and a half centuries old. The trees being planted in the vicinity of a pond or lakelet, a part of its margin has become thickly studded with the "knees," which are of very various shapes and from one to three feet in height. I was surprised to find these peculiar growths extending so far from the trees, in some cases being distant from ninety to one hundred feet. The theory that these knees act as a support to the tree in yielding soil (Garden and Forest, vol. iii., p. 21) would hardly apply here, where they are comparatively slender and extend so far from the base. In drained portions of the ground the knees are noticeably very small.

Examples of our White Pines, with trunks four feet in diameter, and Douglas Spruces sixty-five or seventy feet high, attest the suitability of soil and climate in this locality to these favorite American conifers. The Red Cedar, or Savin (Juniperus Virginiana), exhibits various familiar forms or outlines, and we find old trees with their characteristic spreading and straggling habit and younger specimens of the more regular close pyramidal form, such as we commonly see in New England. Good examples of various species of Spruces, Firs, Hemlocks, Sequoias and other conifers might be enumerated.

The garden and nursery adjoining the park is quite worth a visit, and such old acquaintances as Dirca palustris and Kalmia latifolia are found to be represented by as fine rugged old specimens as can be seen anywhere in cultivation. Here, also, we find the true Magnolia macrophylla, a rare tree in European collections, those passing under the name sometimes proving to be our M. tripetala, or Umbrella-tree.

Arnold Arboretum. *J. G. Jack.*

Early May in West Virginia.

FORSYTHIAS are now out of bloom, and so is the delicate and graceful little Spiræa Thunbergii. Their places are taken by the Japan Corchorus and some of the later Spiræas. Large clusters of these shrubs are mingling their flowers in the garden, and mask the foundations of the house effectively.

Both the white and the pink flowering Almonds are now in perfection of bloom. These shrubs never grow very tall, four feet being their average height at maturity, and a group of three varieties, the white, the pink-flowering and the striped-bark Almond, are exceedingly pretty against the stone foundation of a country-house. Their suckers should be encouraged to grow and the pruning-knife used judiciously on the old wood to prevent the straggling appearance they are apt to assume in uncared-for old age. The ground about them should be kept mellow, and they ought to be mulched for winter protection, as they are not perfectly hardy. They well repay a little care by the extreme beauty of compact specimens when covered with their early bloom.

Wistarias are now clothing the trunks of their supporting trees and draping their branches with festoons fringed with clusters of purple flowers. With us these lovely vines seem to have alternate seasons of scarcity and profusion. Last year they gave us very few flowers, for which they are now atoning by a luxuriance which is delightful to the eye. They grow with amazing rapidity, and soon reach the tops of tall Locust-trees. The foliage of these trees does not give a dense shade, but just furnishes the shelter from the sun which Wistarias seem to require, as they bloom before the Locusts which they climb are in full leaf. Later in the season the tree and the vine mingle their blossoms with an indescribably beautiful effect.

One of the earliest shrubs in flower of the great family of Leguminosæ is the Chinese Caragana (C. Chamlagu). This is now blooming in a section of a shrubbery where many of its relatives are planted. Its small, glossy, dark green, pinnate leaves are so delicately beautiful, and its flowers are so large and showy, that it is a most attractive plant. When the blossoms open they are a clear yellow, but a few hours' exposure to the hot sun changes them to orange and brown, and they have almost the same range of color with the old-fashioned Wallflowers, one of the old plants beloved by our grandmothers. These are now in full bloom, and carry the memory back to days of childhood, when they were first known and loved.

Flowering Currants have bloomed abundantly this year, but are now fading. The numerous varieties of Cydonias are all so useful and pretty that it is hard to select a favorite. Between the charms of the various-named varieties in different tints of scarlet and orange one hesitates to choose. But the lovely white Cydonia, known as Simplex alba, captivates every beholder. This variety is perhaps most effective when planted close to one of the deep red sorts, though a clump of them standing alone is a very beautiful sight. Gaujardii and the other orange-red varieties are best by themselves, and are now strikingly handsome, blooming even more profusely than usual.

The buds of Magnolia Lennei were much injured by the severe frosts of April, and our one specimen of this tree did not produce a single perfect flower. The winter and late spring have been peculiarly trying to vegetation, and a fine M. cordata was killed outright, while a small Evergreen Magnolia safely housed under a barrel did not seem to suffer at all.

Staphylea trifoliata makes a pretty little tree about ten feet in height, and is a native of our woods. It is now profusely ornamented with raceme-like clusters of curious white flowers hanging from the ends of its branchlets, and which will soon be followed by large bladdery pods, which have given it its common name of Bladder-nut. It improves greatly under cultivation, and a specimen we brought from the woods two years ago has flowered more freely and grown more luxuriantly, and in more symmetrical form, than its wild relatives. S. Colchica is about a week later than our native plant, and is now in bud. It is a neat compact little shrub with glossy leaflets and very fragrant white flowers, much prettier than those of the American variety, which has little or no perfume.

Neviusia Alabamensis is showing a few first blossoms. These flowers dispense entirely with corolla; they have five green sepals and very numerous white, yellow-tipped stamens, and are produced so freely that they completely mantle the bush, and have a most dainty and feathery effect. The shrub is a rapid grower. Last year, in spite of the severe drought, it made very satisfactory progress, and threw up a root-sucker six feet in length. It is of the easiest cultivation, and is especially interesting to botanists from the fact that it is found in but one locality in Alabama.

The Red-bud and the large-flowering Dogwood are now the most conspicuous of our native trees. They are very often found growing, side by side, in the woods here, where they form a beautiful illustration of Nature's skill in grouping for effective contrast. Many copses of Red-bud have for background the delicate young foliage of Oaks and Hickories, and form a lovely fringe to the borders of deep woods. A large-flowering Dogwood, planted by itself in rich ground

where it can develop evenly on all sides, is one of the best of small trees. In such a situation it forms here a spreading tree twenty feet in height, and is now so covered with bloom that it appears to have profuse white foliage. Near it is planted the red-flowering variety, our specimen being at present about eight feet in height. The original red-flowering Dogwood came from Virginia, but trees whose flower-bracts vary from pure white are not rare. A fine specimen grows near us on the banks of the Potomac, and I have seen another in a distant wood. The bracts are not pretty or showy until fully developed, when they gradually assume the pink of the Wild Rose.

The Japan Red-buds are showing very scanty bloom. Possibly, in the struggle for existence during the drought of last year, they had no vitality to spare for the formation of blossom-buds. They do not seem to be as hardy here as the native variety. Exochordas are flowering well. The common name for this shrub is Pearl Bush, and the round buds strung along the stems have a pearly whiteness and purity which make the name an appropriate one. When a plant receives a common name it is a sign that it is becoming well known and loved, and no shrub of recent introduction is worthier of popularity than the graceful Exochorda. It is said to be short-lived.

Evergreens have suffered from the late frosts, and Peach-trees are giving very little bloom. Apples and Cherries and Pears promise an abundant crop.

In the wild garden Anemones, Trilliums, Columbines, Mertensia Virginica and Phlox divaricata are now most conspicuous. The latter plant is very charming when given a little care. It needs partial shade, and is exceedingly pretty at this season, having a wild grace of its own, making it more attractive to a lover of untamed nature than any of its more cultivated relatives.

The garden is gay with bloom and musical with the songs of many birds, and, altogether, the old earth, in its renewed spring freshness, never seemed a more pleasant dwelling-place.

Rose Brake, West Va. *Danske Dandridge.*

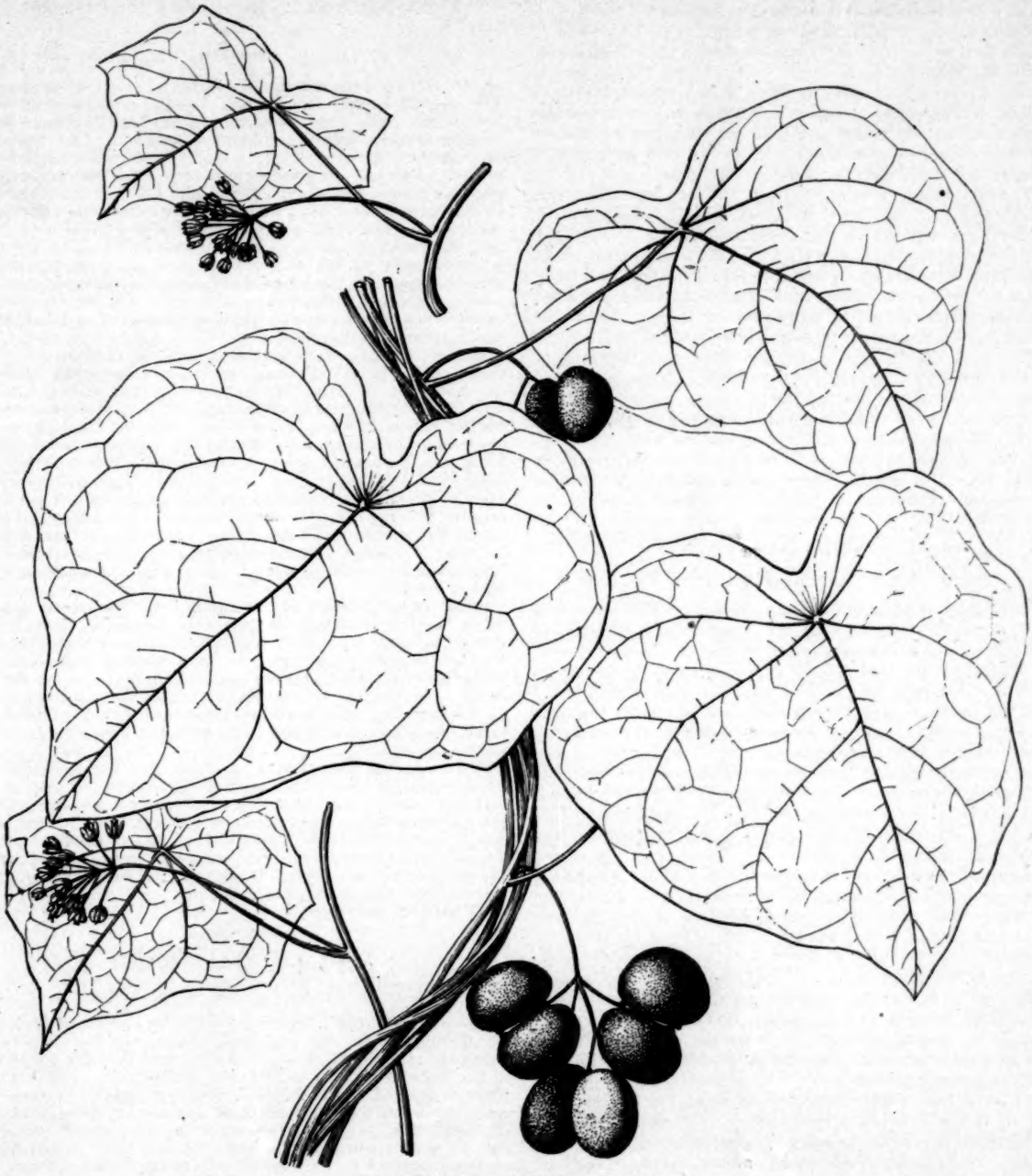

Fig. 42.—Menispermum Dauricum.—See page 234.

New or Little-known Plants.

Menispermum Dauricum.

THE genus Menispermum contains two species which so closely resemble each other that they can perhaps as well be taken for geographical varieties as species. The origin and type of the genus is a native of our northern states, where it is not rare on the banks of streams and in other low, moist situations; the second species, of which a figure is published on page 233 of this issue, is Asiatic, and appears to be common and widely distributed in Siberia, Manchuria, northern and central China, and in Japan. Like its American relative, it is a graceful woody climber, with slender stems which attain a height of eight or ten feet, but the leaves, which are thin and membranaceous, dark green and opaque above and pale below on both the American and the Asiatic plants, are on the latter often more deeply cordate at the base and less deeply angled. In their size and general appearance, however, as well as in the character of the flowers and fruit, the two plants are hardly to be distinguished. Both take kindly to cultivation, and are useful plants for covering small trellises or low screens, stumps or walls, although they make rather a heavy, solid mass of foliage, due to the interlacing of the delicate stems which wind one around another and do not reach out for other supports and so break up the pyramidal outline they form in growing. Both species are hardy in the northern states, and, in cultivation, produce an abundance of their handsome black fruit, which, although hidden under the leaves until these fall very late in the autumn without changing color, is more showy than the small long-stalked clusters of minute yellow-green flowers.

Plant Notes.

Some Recent Portraits.

THE colored plate in a recent issue of *The Garden* is devoted to a group of the hybrid Java Rhododendrons, of which a correspondent writes in the columns of our contemporary that "few, if any, greater triumphs of the hybridist could be pointed out than the magnificent forms of Java or tube-flowered Rhododendrons that are now to be found in our gardens, with which the name of Messrs. Veitch is so closely connected."

The first of these hybrids, known as Princess Royal, was raised about forty years ago by crossing the white-flowered Rhododendron jasminiflorum with the orange-flowered R. Javanicum, the offspring producing pink flowers. This, the type of the race, is still one of the best of its color, and none of the more recent acquisitions surpass it in habit, foliage, or in the abundance of its flowers. Other species have since been used in the establishment of this garden-race, which now contains the blood not only of the two species mentioned, but also of R. multicolor, R. Brookeanum, R. Lobbi, R. Malayanum and R. Teysmanni. The offspring of these crosses produce scarlet, pink, yellow, white and rose-colored flowers, and the plants have the merit of remaining in bloom almost continuously throughout the year, provided they are subjected to a sufficiently high and moist temperature. They are not, however, very vigorous plants, and their habit often leaves much to be desired. Most of these hybrids produce single flowers, although among them is a small group with double flowers, to which the name of R. balsamineflorum has been given, from their fancied resemblance to the double Balsam-flowers. This double-flowered race originated from one bloom, which showed a tendency to make a double corolla, and which, being fertilized with its own pollen, produced seeds from which the double-flowered plants were raised. They are distinctly inferior to the single-flowered kinds in beauty, although they last much longer.

The writer of *The Garden* recommends the following varieties: Luteo-roseum, Primrose, Jasminiflorum carminatum, Duchess of Edinburgh, the Prince Leopold, Princess Royal, Duchess of Teck, Militaire, Aphrodite, Princess Christian, Brilliant, Favourite, Lord Woolsey, Princess Alexander, Queen Victoria, Triumph and Ophelia. All of these and many others may be found in some of the best American collections, notably in Mr. Hunnewell's garden at Wellesley, where the cultivation of all Rhododendrons is made a specialty; and apparently they thrive in this country and give as much satisfaction as they do in England.

A Double-flowered Cyclamen.

AMONG the so-called garden varieties of plants those with double flowers often attract attention. These flowers are not only in many cases handsome, but often they have some interest to the students of botanical science. This character of "double flowering" is, however, attributed to different forms, in which a development of supernumerary organs, such as petals, has taken place. But there are recorded instances in botanical literature of other organs thus developed, especially in Masters' *Vegetable Teratology*. There may, then, be a distinction made between the cases in which an augmentation of parts of the flower has taken place as a result of overdevelopment, the affected organs being repeated over and over again, often without any transmutation of form, and other cases which ought more properly to be classed as examples of prolification of the flower.

It does not seem to be common for both of these forms to occur on the same individual, yet it has lately been observed in a specimen of Cyclamen Persicum, which is cultivated in the United States Botanical Garden. All the flowers were abnormal and somewhat larger than in the ordinary form. In some of these, as shown in Fig. 43 (p. 235), the number of corolla-lobes was increased to eleven, but they all showed the typical form and color, light rose with crimson base, and were distinctly arranged in wreaths, so that no fission of the lobes seemed to have taken place. It was a case of simple multiplication of the corolla. The calyx was perfectly normal, but the number of stamens was increased to seven or eight, which, however, like the pistil, did not show any kind of transmutation of form.

Some other flowers of the same individual were, on the other hand, proliferous. There were developed here, inside the calyx, small whitish flowers, more or less distinctly situated in the axils of the five calyx-lobes and between these and the lobes of the corolla (Figs. 44 and 45). In these proliferous flowers the number of corolla-lobes was seven or eight, situated in wreaths, as in the flower described above. The calyx-lobes, the stamens and pistil did not differ, however, from the normal form.

If we examine one of these small flowers (Fig. 46) which has been removed from the specimen illustrated in Fig. 45, we see that there is no calyx, and that the very irregular corolla has eight separate lobes which are not distinctly arranged in spiral, and are not bent backward as in the normal corolla. These small supernumerary flowers were merely in bud, while the main flower was in full bloom, and the stamens and pistil were merely present as rudiments.

U. S. National Museum, Washington, D. C. *Theo. Holm.*

Cultural Department.

Winter Protection in Mild Climates.

I HAVE been much interested in some experiments in protecting tender and half-hardy plants. In this climate the rhizomes of many Cannas will usually pass through the winter in the ground without any particular protection. This is particularly true of Canna flaccida, which is rapidly becoming a weed by running under fences and invading neighboring grounds. Those varieties which make very stout and short rhizomes of a more fleshy character are liable to be injured unless covered. C. Ehemanii keeps much better protected in the open ground than it does lifted, as its rhizomes will not endure drying as others will, and if lifted it must be put into a greenhouse and some degree of growth kept up. In the open ground it comes through in fine condition when covered with coarse manure or with sawdust. The Crozy Cannas came through with the same kind of protection.

Caladium esculentum did finely with a sharp mound of soil over the corms. So also did Tuberous Begonias. A sharp well-beaten earth-mound I prefer for these, as preventing too much access of water. Amaryllis Johnsoni and its allies all sur-

vived well with the coarse manure cover. Dahlias are commonly left in the ground here, but the losses are heavy from freezing of the buds from which the new growth is made. This could be prevented by the earthen mound, but I can see no advantage in keeping Dahlias over winter outside. I much prefer to lift and divide the roots after sprouting, and this sprouting I defer until as late as possible, so as to delay the flowering to a season more propitious for their flowers than our

Fig. 43 —A Double-flowered Cyclamen, natural size.—See page 234.

hot midsummer. In the warm lands near the coast I have seen Dahlias, that had been left out all winter, in bloom in spring, and the flowers there were fine, but here such tubers will get into bloom in June in our hottest weather, and are poor. By keeping them back as late as possible we can delay the bloom until August, and generally get fine flowers all the fall.

In the matter of trees and shrubbery we have still much to learn about winter protection. Abutilons, with a high mound of soil or sawdust around their base, will usually be killed back only to the top of the mound, and will grow strongly from the base. It is better, however, to cut them down as soon as the frost checks them to within a foot of the ground, and then cover all with earth. Erythrina Crista-galli does finely the same way, but I usually prefer to pot some and start early in the greenhouse for early bloom.

Figs, with large Pine-boughs stuck in the ground around them, hardly lose a bud, while those fully exposed are badly frozen. Tender evergreens, of course, cannot be covered with soil, but I find that Pine-boughs tied closely around Neriums and Gardenias bring them through in fine condition. I have one Gardenia florida on the east front of our college building, in a projection which shelters it from the morning sun, that has been otherwise unprotected, and is all right. The high brick walls around it doubtless absorb much sun-heat during the day and radiate it at night. In the warmer sections of the

Fig. 44.—Proliferous flower of Cyclamen, natural size.

coast country the Gardenia grows almost to a tree-like stature wholly unprotected. Double-flowered Camellias seem more liable to lose their buds in winter than the single-flowered ones. While single-flowered red Camellias are comparatively plenty, it is rare to find a good double variety in the open air. I am sure the trouble mainly arises from planting on the south exposure, as most people are apt to do with half-hardy things. Placed where the morning sun does not strike them, or protected by evergreen boughs, Camellias would do well in all of southern and eastern North Carolina up to the centre of the state. The perfect hardiness and fine growth of Azalea Indica here makes me wonder that so few are planted. They are largely used in South Carolina, but seldom seen here. The Azaleas which have been blooming this spring in my front yard have attracted much notice, and I have continually to be telling people what they are.

Agave Americana came through the winter without protection in full exposure to sun and north wind, but in a badly battered condition. With a board shelter to keep off sun and rain, it winters finely in dry ground. Musa Sapientum survived with a hogshead inverted over the crown and packed with dry firm straw. We are planting some Richardia Æthiopica in a Lily-pond, with the purpose of letting the roots remain in the mud next winter for summer flowers. In this same pond we had last summer a lot of Pontederia (Eichornia) crassipes. A friend told us they had lived over winter in his pond. We doubted it, and put some of them in a tub in the greenhouse. All that were left in the pond perished, as we expected. Lantanas, cut back and mounded with earth like Abutilons, are all right, and will doubtless prove very efficient with this mode of treatment.

Maltese Oranges of large size, in tubs, wintered perfectly in our cold grapery, and are blooming much better than they ever did in a heated house. Winter-garden possibilities under glass here are immense. There are so many things which the simple glass roof will preserve in beauty that I wonder that so little is attempted in this way. There are, of course, some flowers, such as Violets, Hyacinths and Daffodils, all winter outdoors, but there are times when they are much injured by frost, while the simple glass roof would keep them in constant beauty. Phlox Drummondii blooms all winter in our cold

Fig. 45 —Proliferous flower of Cyclamen, natural size.

Fig. 46.—A small flower from the same plant, twice the natural size.

grapery, as also does Candytuft, Sweet Alyssum and Mignonette. Pansies are gorgeous in the Vine-borders.

It would be easy to make a long list of plants that could be used in an unheated conservatory here, and I have often been surprised that our enterprising proprietors of winter hotels have not struck the idea of a glass-covered garden for invalids as they have the glass-enclosed hotel verandas. I cannot imagine anything more attractive than a large airy conservatory, with everything planted out in a natural way on a lawn of Selaginella. We have a plan on foot to secure such a resort on our beautiful Capitol Square in Raleigh.

Raleigh, N. C. *W. F. Massey.*

Garden Strawberries.

MR. BLACKNAL'S experience with certain varieties of Strawberries, in North Carolina, differs so widely from ours in New Jersey, that I am tempted to offer a few suggestions about the best garden Strawberries. Crystal City has been my favorite kind, notwithstanding it costs twice as much to raise as the average berry, and so long as I could do no better, I was willing to raise it at twenty-five cents a quart for its exquisite flavor for table use. It is a week earlier than any other berry, but if Michel's Early continues to do as well as it did last season, I shall depend upon that for a first early until we get some new variety still better, because, while it lacks a little of the sprightliness of Crystal City, yet it is very sweet and yields largely. I have never found a better second early kind than May King. It is a remarkably healthy and vigorous grower, with berries large, well colored, and as regular as though turned in a lathe. It is fairly productive and very sweet. Bubach No. 5 is a satisfactory mid-season berry, if given high culture, and under such circumstances it makes runners quite freely, but the runners are short-jointed, and where such a variety as Gandy will stretch out its runners two feet between plants, they would be only six or eight inches in Bubach, and this peculiarity causes it to make a handsome, compact bed. For a late fruit Gypsy has more good points

than any other. It is exceptionally healthy and vigorous and extremely productive, and the berries are large, of fine quality, with a glossy surface and rich color. It is, however, a pistillate kind. Cloud has only one recommendation, and that is productiveness. It is small, dull-looking and very poor in quality, and makes an immense number of small plants.

Pistillate varieties sometimes produce good crops when planted alone, and they are probably more likely to do so on rich land; but when such a result happens, it must, of course, depend on one of two things—either there must be some perfect flowering variety sufficiently near for insects to carry the pollen, or there must be enough development of stamens to effect fertilization. The last tendency varies considerably with different pistillates, and neither is fully safe to rely upon. It is much better not to allow the runners to grow than to thin out the plants, because it exhausts the plants largely to produce them. With such free-running plants as Crescent, I have found it a good plan to plant three feet apart each way, and then allow the first runners to grow, placing the young plants, as they form, in the row, in such manner as to have them about six inches apart, leaving a space of fully three feet between rows for cultivation, and, after this, remove all runners as fast as they show themselves. If the land is thoroughly enriched, they will produce big berries, and plenty of them. Of course, to secure the finest fruit, some clean mulch must be applied between the rows. The ideal mulch would be something, which, while it shaded and kept the soil cool and also protected the berries from the scorching sun, would still allow the rains to soak down freely and also a free aeration of the ground. Growing grass, not too thick, accomplishes this, but it draws both fertility and moisture, which makes it objectionable. Perhaps, where obtainable, Pine-needles, with a rank growth of foliage to shade the berries, come as near to meeting all these demands as anything we can use.

Hammonton, N. J. *Wm. F. Bassett.*

Notes from the Harvard Botanic Garden.

FEW plants which flower in early spring are so much admired as Adonis vernalis. It belongs to the Ranunculus family, a native of southern Europe, and was introduced into English gardens 250 years ago. It grows from ten to twelve inches high, and the finely cut leaves are produced in whorls on the stem. The large yellow Anemone-like flowers, which are from two to three inches across, are produced one on each stem. It will grow in almost any soil, but to have this beautiful plant in perfection it ought to be grown where it can get plenty of sun, in good, rich, moist, sandy soil, and not often disturbed. It is propagated by careful division in the fall or by seeds.

The beautiful alpine Primrose (Primula rosea) has proved hardy here with a slight covering of leaves. It was sent to England in 1879 from the Himalaya mountains, where it was found growing from 10,000 to 12,000 feet above the sea, and also from Afghanistan, where it was collected on snowy ravines at 11,000 feet above the sea. It has a very neat habit, the leaves, which are pale green, being about four inches long, and forming compact tufts. The flowers are produced in heads like the Polyanthus, and when first expanded are carmine-pink, but gradually grow pale with a shade of purple. The flower-stem is from four to six inches high, and the single flower is nearly one inch across. In its native country it flowers from June to August, but here it flowers during April and May. It is planted here in a rather shady position in good rich loam. This beautiful little gem should be in every collection, and can be easily raised from seed.

The pretty little Anemone ranunculoides is growing in a rather sheltered spot here, where it has a covering of leaves thrown over it every winter. This is taken off in the middle of March if the weather is favorable, and in a few days after the plant is covered with its beautiful yellow flowers. It is a tuberous-rooted European species, very like our common Wood Anemone, but has rather coarser foliage, and the flowers are bright yellow instead of white or rose-colored. It grows from four to six inches high, and the flowers are produced either singly or in pairs. It is frequently cultivated in English gardens, and is also naturalized in some English woods, but is seldom seen in cultivation here. It grows well in a shady position with a well-drained sandy soil, and is propagated by division.

Alyssum saxatile has been in cultivation for over one hundred and fifty years, and it remains one of our most valuable early spring-flowering plants. It is somewhat shrubby at the base, and grows about one foot high. The golden yellow flowers are freely produced in loose panicles, and if the weather is good they last in perfection for two or three weeks. It will grow in any sunny position with light sandy soil, yet it is seen to best advantage when it is planted in a sunny situation on the rock-work, where its prostrate stems can hang over the stones. It is easily and readily propagated from cuttings or seed.

Cambridge, Mass. *R. Cameron.*

The Spring Garden.

THE Irises are now represented in the garden by the dwarfer forms of the rhizomatous kinds. The first of these to flower is I. Chamæiris, a dwarf plant six to nine inches high, leaves broad, flowers a primrose-yellow, with light brown linings, orange beard, standards broad and well incurved. This is followed by I. lutescens, a slightly lighter yellow-veined brown, with yellow beard, standards not so broad as those of I. Chamæiris, and leaves narrower. I. Olbiensis is also dwarf, six to nine inches high, with broad short leaves; flowers purple, with a metallic lustre, and falls a very deep rich purple; a very attractive variety, and much like I. nudicaulis, of a similar, though not so rich a color, but with a more graceful habit of flowering and a trifle taller. I. pumila is one of the first of the group to flower. This well-known kind may be had in various colors, the type being a rather dull purple. The variety Alba is far from being a satisfactory white, the color being a dirty cream, dull and indistinct. I. Sibirica is one of the most attractive of those now flowering. It has narrow, erect standards, oblong falls veined with violet on a light ground. The leaves are narrow and rush-like, and in the variety, Hæmatophylla, they are stained a deep blood-like tint. The plant is from twelve to eighteen inches or more high, and very ornamental.

Rather handsome flowers are those of I. oxypetala, a beardless Iris with erect standards and narrow falls, of a beautiful soft light, violet or lilac shade, centres of which have a yellow ground reticulated with brown. The leaves are narrow and rush-like, and 1½ feet long. I. Missouriensis is of similar color and form, but without yellow, and rather more distinctly reticulated. Both of these are very desirable Irises, as is the lovely little Crested Iris of North Carolina, which is just opening. Nothing could be prettier in the season than a very dwarf border of this gem, with its bright flowers.

The first of the Germanica section are now showing color, and very soon the garden will be gay with a wealth of their showy flowers. Tulips are still in force, and whether they are interesting or not will depend very much on the varieties grown. A bed of Van Thol Tulips, such as ornament our parks in the spring, seems to me neither a work of nature or art. It certainly is not for lack of material that we are favored with plantings of yellow, red and white dwarf Tulips in hideous regularity. Nothing is more formal than a bed of the same class of Tulips, but this is formality and crude color combined. When we can arrange our own plantings we can arrange them with more unstudied art and use the various sections and species to give a less drastic effect, and by the successive flowering enjoy their brilliant colors for a long season. Why plant a Tulip-bed which shall be at the mercy of one shower? Among the kinds of Tulips which should always be planted are the Byblooms, Bizarres and Roses, the flowers of which are richly colored and late. Breeders, too, should be in all gardens. Good forms of breeders are not only beautiful, but interesting. These, of course, are richly colored selfs which have not yet rectified or taken on their true coloring. Seedlings I do not fancy so much, the "dropper" habit being more curious than satisfactory. Some seedlings of T. Greggi, which have been in my border four or five years, still keep up this habit, and so far do no more than show their prettily spotted leaves. Of other species, T. Gesneriana is one of the handsomest common kinds, but there are numerous smaller species which are full of interest. The florists' Tulips seem far enough away from some undetermined ones from Asia Minor, which form a very pleasing, graceful group in the border. These have narrow, very slightly glaucous leaves, and the small flowers are borne on flexible scapes. The colors are very peculiar shades of reds and yellows quite beyond me to describe. Other forms from the same section are dwarfer, with rigid scapes, glaucous foliage and vivid crimson flowers. All have the sharp-pointed petals abhorred of the florist. In another respect this red variety differs widely from the hybrid Tulip in having a very thick felt-like tunic instead of the thin skin of the latter—from which I am inclined to think they will do better in a somewhat drier place than the full exposure of the garden, though they seem hardy enough.

Elizabeth, N. J. *J. N. Gerard.*

The Wild Garden.

CLUMPS of Daffodil are found growing in moist meadows in the south of England and in many parts of Europe, and they can be very appropriately used in harmony with similar natural features here. On lawns they seem quite out of place, and it is in the wilder parts of the garden where they can be used most effectively. The best opportunities for developing a wild garden, by the natural disposition of suitable plants, are found outside of the limits of the kept grounds, and, where woodland abounds in the immediate vicinity, great care is required in the changing of the natural features not to draw the line too sharply. Many years ago the owner of this estate planted a space in the wilder part of the garden with a few native plants. The group includes the American Cowslip (Dodecatheon Meadia), the Closed Gentian, Cypripedium pubescens, Aquilegia Canadensis, Adiantum pedatum, and Smilacina racemosa. They are all thriving to-day without any special care.

It is a fact that many of the most beautiful and tender dwarf herbaceous and alpine plants do better when planted in grass, and disturbed only to free them from weeds. Such a lovely, yet fragile, plant as Anemone deltoidea can never be satisfactorily cultivated in an ordinary rock-garden, but if planted in a rather moist grassy spot it will thrive nicely. The same may be said of the pretty yellow Anemone ranunculoides, and, for that matter, all the Anemones belonging to the nemerosa type. A. Pennsylvanica is perfectly at home in the wild garden, and, in fact, it ought never to be cultivated, in the strict sense of the term. It is a species well worth growing, too, and gives a multitude of pretty cup-shaped white flowers, which are excellent for bouquet-work. It is liable in time, however, to become a nuisance, by monopolizing the territory allotted to other plants. Viola pedata, and especially the varieties alba and bicolor, and V. lanceolata are bright and unobtrusive little plants, as also are the Bluets (Houstonia cœrulea), although there may be some objection to the use of these where they are common in the vicinity. The star-shaped flowers of Sanguinaria Canadensis are strikingly bright. They come year after year and interfere in no way with the verdant aspect of the place they occupy. Arenaria grammifolia, A. montana, A. verna and Stellaria Holostea form neat white patches when in bloom, and afterward assimilate with their surroundings so well that their presence is not noticeable. So also do the common Moss Pinks, which just now are a blaze of color. The common Silene Pennsylvanica and the rarer Fire Pink (S. Virginica) are more at home in such a place than under cultivation. The double-flowered Genista tinctoria will be a perfect sheet of yellow while it lasts, and as it is a neat prostrate shrub looks quite natural when out of bloom. There are, also, in addition to several kinds of Narcissus, many other bulbous and tuberous-rooted plants which can be effectively used. These include the American Dog's-tooth Violet (Erythronium Americanum), Spring Beauty, Claytonia Virginica, Dicentra Canadensis, Rhexia Virginica, Calopogon pulchellus, Tulipa cornuta and T. suaveolens. Plants used in this way want intelligent care, attention enough to protect them from crowding, or any such change in the natural features of the place as will make the wild garden look in any way artificial.

Where practicable, with sufficient shade, Kalmia latifolia, Andromeda floribunda, A Catesbæi, Rhododendron villosum, R. Wilsoni and R. ferrugineum and choice broad-leaved evergreen shrubs may have a place, and where there is more sunlight flowering shrubs can be used.

Wellesley, Mass. *T. D. Hatfield.*

The Forest.

The Forests of California.—II.

OUR issue for May 4th contained portions of a paper on this subject, read before the American Forestry Association at Washington by Hon. William Alvord, and the following are additional extracts from the same paper:

The Big Trees (Sequoia gigantea) have been discussed so thoroughly, especially by Dr. Gray in his essay on "The Sequoia and Its History" and by Mr. F. J. Walker in his admirable paper on "The Sequoia Forests" that little needs to be added here.

They are not found in any other part of the world, and in California only on the westerly slope of the Sierra Nevada, where they occur in groups, standing at intervals along a zone varying from 5,000 to 7,000 and 8,000 feet in height and extending for a distance of 200 miles.

In the Calaveras Grove, the farthest north and the first discovered, there are standing 103 trees, twenty of which are about twenty-seven feet in diameter and 250 feet in height, and a number of prostrate trunks, which appear to have been much larger when in their prime.

One of the fallen trees in this grove is estimated to have been about 400 feet in height and thirty feet in diameter; the tallest in this grove is 260 feet, and in the Mariposa Grove 272 feet, and in the King's River Grove 300 feet. The thickness of the bark is sometimes two feet. In estimating California's lumber resources these trees have been left out, because the wood was not considered worth much for that purpose. Up to the present time some lumber, but not much, has been cut from the Big Trees in the counties of Fresno and Tulare, in amounts not to exceed, in all, 30,000,000 feet, some of which, on account of its finer grain, is now preferred to the Coast Redwood for interior finish, and has been sold for $40.00 a 1,000 feet in San Francisco. The largest body of Sequoia gigantea, and of the densest growth, and perhaps containing more trees than all the other Big Tree groves in the Sierras combined, is on the seven-thousand-acre tract in Converse Basin, on King's River.

That these trees are very old is evident, but the annual rings are not clearly discernible throughout an entire section, therefore there are variations in the opinion of investigators; some hold that they are 4,000 years old, while others think that an overestimate, but it seems as if sufficient was known for us to fairly consider them as old as the Christian era. Dr. Gray beautifully says: "It is probable that close to the heart of some of these living trees may be found the circle that records the year of our Saviour's nativity." The Redwood grows from shoots and seeds and bears egg-shaped solitary cones about one inch long, but Sequoia gigantea grows from seeds only, and its cones are remarkable for their small size, being only one to one and a half inches in length. You may get an idea of their size by the average English walnut of commerce, which they resemble, although more oval.

The Redwood (S. sempervirens) is another noble tree, and its habitat is restricted to California and not broadly disseminated there; on the contrary, it is confined to a narrow belt of country lying along the sea-coast, its reach inland being nowhere more than forty miles, and generally not half so far. It may be said to reach from the ocean on the west to the summit of the Coast-range on the east. Beginning in Del Norte County, occupying the north-western angle of the state, the Redwood belt extends, with some gaps, down the coast four hundred miles, to Santa Cruz, where, it has been said, is the southerly limit of its growth; but I have recently seen some trees in San Jose Cañon, several miles south of Carmel Bay, and there is a grove of Redwoods about thirty-five miles still farther south, on the South Fork of Sur Chiquito, a good-sized trout-stream running through narrow cañons from its source to the ocean, the North and South Fork coming together about three miles from the ocean. The trees average smaller than those growing north of the Golden Gate, but Mr. F. S. Douty measured one that was thirty-eight feet in circumference five and a half feet from the ground.

Along the central portion of its range the Redwood occupies the ground to the almost entire exclusion of all other trees. Its distinguishing features are the great size of the trees, their amazing vitality and the thickness with which they stand together. Search the world over, and nowhere else will you find such an amount of timber to the acre. The trees vary in height from 180 to 250 feet, and in diameter from nine to twelve feet. They stand so thickly along the central portion of their range that there is hardly space for a team to pass between them. Twelve miles from Boulder Creek, Santa Cruz County, and less than one hundred miles from San Francisco, there is a Redwood-tree, called the "Father of the Forest," which is said to measure forty-two feet in diameter at its base, and twenty-eight feet five feet from the ground, and is nearly three hundred feet in height; the "Mother of the Forest" measures twenty-four feet in diameter.

In an acre of woodland near Highland, in Santa Cruz County, Mr. W. E. Emery and a friend counted two hundred and thirty-six trees from one and one-half to eight feet in diameter, and they estimated that a single tree of the latter size would produce from 15,000 to 20,000 feet of lumber, and from such an acre might be taken a quarter of a million feet, but the average yield per acre in lumber is 25,000 feet in Mendocino, Sonoma and Santa Cruz Counties. In Humboldt County some acres in flats along streams will yield as much as 500,000 feet, but careful conservative owners of Redwood-lands in that county estimate 60,000 feet as a fair average of lumber per acre. There are of these Redwood-forests more than two million acres, two-thirds of which are densely timbered.

The Redwood, as its scientific name imports, is exceedingly tenacious of life. Cut it down and numerous sprouts shoot up from its roots, and in a short time grow so thick as to hide the monster stump, and only repeated cuttings of these young shoots suffice to repress the tendency of the tree to reproduce itself. The wood is durable, light, splits freely, but is not very strong; nearly all the lumber used before the days of saw-mills was riven from this tree. A dealer in lumber in San Francisco recently filled an order from London for 100,000 feet of Redwood-lumber, cut from the bole, the stump and gnarl chunks, for use in houses, as inside finish in natural wood, and for furniture and cabinet-work. It is so good and handsome for such purposes there is no doubt that the export demand for it will increase.

T. H. Hittell, the historian, says: "In the eyes of many persons the Redwood is the most beautiful tree that grows, and the Redwood forest is the most beautiful forest in the world." Nearly all the land upon which the Redwood grows having passed into private hands, these forests are doomed to early extinction unless state or national pride and the good sense of those in authority authorize the purchase of a portion of them for public reservations.

The Port Orford Cedar (Chamæcyparis Lawsoniana), though really belonging to the forestry of Oregon, is mentioned here because there are a few groves in California about Mount Shasta. It is a large tree and very valuable, makes white lumber, hard but easily worked, takes a very fine polish, excellent for interior finish, also for flooring, ship-building, does not decay rapidly in the ground, and so is used largely for fence-posts. It grows from 130 to 180 feet in height, and is from five to ten feet in diameter. When young, like the specimens in the Golden Gate Park, about twenty-five feet in height, the trees are very handsome, the foliage drooping, and so thick as to hide trunk and limbs and touching the grass, make a graceful addition to the beautiful lawn.

The Madroña (Arbutus Menziesii) is a handsome evergreen tree, reminding one of a Magnolia, about fifty feet in height, with hard and strong wood and smooth brownish red bark. There is one of extraordinary size near the reservoir on Mount Tamalpais, Marin County, which is seven feet in diameter in the small part of the bole, and several branches measure from one and one-half to three feet in diameter. The bark is in demand by tanners, and the charcoal is sold to manufacturers of powder.

The California Laurel or Bay-tree (Umbellularia Californica) is a Coast-range evergreen tree, two to four feet in diameter (sometimes larger), fifty to eighty feet in height; leaves plentiful and strongly aromatic; wood light-colored, close-grained, takes a very high polish, and is valuable for wainscoting and cabinet work, and is quite as handsome as Satin-wood.

One is attracted to the lumber-forests of California by their agreeable shade, cool clean grounds, resinous odors, and the knowledge that one will not find annoying insects or reptiles to trouble, nor will timid tourists find wild animals to frighten them. Much has been said about the wasteful methods of our people in dealing with their forests and forestal products; while these methods cannot be altogether justified, something may be said in their extenuation. Judged by ordinary criterions, it would be an easy matter to convict our people of other excesses than these. We were at first just as prodigal in disposing of our gold-bearing deposits as to the casual observer we may seem to have been in disposing of our forest-resources. The pioneer miner worked only the richest portions of the gold-bearing gravel, leaving the poorer untouched, nor did he work the richer ground with much closeness, simply because it would not pay to do so, food was so high.

When it came to settling upon and cultivating the land a like policy was pursued—the more fertile and accessible being chosen, and the poorer neglected. So with the pioneer woodman, needing lumber, he picked out and felled the best trees, and from these selected the parts that suited him the best; this culling and rejecting was but a rude sort of thrift; why should he accept the poorer when there was enough, and, to his mind, an inexhaustible supply of the best?

But, however it may have been in the past, there is but little of this timber-devastation now going on in California on account of the more accessible lumber-forests having become private property, and the owners are careful to guard against any undue waste. Then, much of the tree that was formerly rejected as valueless is now utilized by the millmen, the creation of new uses for the inferior lumber and the employment of improved machinery having made this possible. Into our larger mills improved mechanisms are constantly being introduced, so that even the smaller economies are not neglected. In this manner the percentage of material in the standing tree has been increased twenty to thirty per cent. As in the mills, so in the logging-camps, the tendency is toward economy, both in saving the raw material and in the cost of handling it.

The continued prosperity of California depends upon its mountain-forests. They should be well protected, and extended where possible, and this truth should be constantly reiterated and amplified.

Correspondence.

A Greenhouse for Amateurs.

To the Editor of Garden and Forest:

Sir,—I have long desired a small greenhouse for propagating and cultivating a few plants, but have been deterred by the probable trouble and expense until last autumn, when I began to study the matter. Among other authorities consulted, I found in Garden and Forest, vol. iv., pages 55 and 67, an article entitled "Plant-houses for Amateurs," in which Mr. Gerard gave much of the information I wished. This was deficient, however, in its instructions on several points where novices need information, and I have therefore thought that my experience during the past winter might have some value.

In the first place, as to location, the greenhouse should be as near the dwelling as possible. This will be found essential to the comfort of those who intend to do their own work. The exposure to the tempestuous nights of winter for the necessary attention to the fire will be lessened by this propinquity. Of course, the structure should face north and south, and if possible should be protected by some shelter from the north and north-west winds. My own greenhouse is placed on the eastern end of a children's play-house, with which it is connected, while a belt of evergreens sheltered it on the north. The advice of Mr. Gerard was followed as regards size, and this resulted in a span-roof house with seven-foot ridge, eighteen feet in length by ten feet in width. The sash extends fifteen feet, and it is boarded for three feet at the western end. The side walls are of hemlock-boards covered with building-paper and clapboarded with the best material. Upon the inner side the walls are sheathed with matched pine-boards. In addition to the five three-foot sashes on east side, which are hinged at the top, so that they can be lifted, the eastern gable end is of glass, for which the sash was necessarily made expressly. In this one or two panes were made to slide for ventilation. For the foundation, timbers were laid upon cedar-posts, set deep enough to be secure from frost. Of these there were three on each side. As the surface of the ground fell off to the east and north, and in order to bring the building on a level with the play-house, a stone wall was needed. For this purpose a ditch was dug under the outer walls of sufficient depth and filled with small stones, which serve also as a drain for surface water. Upon this were built the walls of common field stone, laid in mortar, and pointed inside and out. The enclosed area was then filled with good garden-loam, thrown in before the sashes were put on, to a level with the base of the wood-work. This was an expense which would not have been required on level ground. The building is all the better as to durability, but the cedar-posts under ordinary circumstances would answer every purpose. The foundation-walls upon the outside were banked and sodded for increased warmth and for appearance.

The greenhouse proper was securely fastened to the play-house by continuing the timbers and shingled roof, thereby affording an additional length of about eight feet in front for a potting-bench, with ample room beneath for potting material, pots and a box for coal. Entrance from the outside was obtained by a common battened door, and this cosy little space was well lighted by a four-foot sash placed lengthwise. At the back of this room, separated by a partition from the plant-house, was placed the stove. One coat of white-lead paint was given to all the wood-work outside and inside.

As to heating, since the hot-water apparatus, with its stove or furnace and expansion-pipe, is thought the best by florists, I assumed that it was best for my purpose. Fortunately, I heard, by chance, that several Baker heaters, formerly used by a railroad company for warming passenger-cars, were for sale at a low price. One of these, in excellent condition, with the expansion-pipe, was accordingly selected, and, being already jacketed, was exactly the article for my house. A simple stove-pipe was passed out through the roof and carried up sufficiently high above the adjacent play-house to secure draft. The heating-pipes consist of a single two-inch flow and return, connecting with a series of five pipes, which completely encircle the house.

The whole apparatus has been most successful, giving, with a moderate fire of anthracite, a night temperature of fifty degrees during the coldest weather. The amount of fuel consumed has not exceeded on the average more than two common hodfuls in the twenty-four hours. The supply of water for the plants was afforded by sinking a common whisky-barrel in the ground beneath the benches, and filling this by means of a portable hose, connected when needed with the faucet in a neighboring stable.

In the arrangement of the interior of the greenhouse a bench was constructed on each side, three feet high, with a depth of four feet, the hemlock-boards being cut off this length and placed within a half-inch space and left movable. The supports are of galvanized iron half-inch pipe, which are neater, stronger and more durable than wood. At the extremity of the northern bench nearest the stove a space of about four feet in length was reserved for a propagating-bed, the bottom being of common roofing-slate, and the area beneath boarded in to confine the heat.

The central walk of two feet in width between the benches has a flooring of North River flagging-stone, laid down without cement. The greenhouse cost slightly more than two hundred dollars. It might have cost less, especially in the arrangement of the heating-pipes, in which experience on my part was wanting, but I am satisfied. The house has been an unfailing source of pleasure to us all. An abundant supply of common window-plants has been propagated by cuttings, various kinds of seeds have been raised, and the area below the benches devoted to various Ferns, running plants and shade-loving vegetation, while Tropæolums and other vines have been trailed along the centre overhead—all, too, under the sole supervision of a daughter, whose tastes have thus been gratified, as may those of many other of our female readers.

Chestnut Hill, Mass. *D. D. Slade.*

No Flowers Sold in the Streets of Boston.

To the Editor of GARDEN AND FOREST:

Sir,—All those who love the spring and its flowers must feel like remonstrating against the exclusion of the flower-venders from the public streets in Boston. A week ago they were like a garden. There were May-flowers and Daffodils everywhere inviting every passer-by to take them, or at least to take a look, and carry away a memory of spring. Here was a boy with great bunches of Roses, Carnations, Sweet Peas and Ferns, and purple Pansies "for thoughts"; and there were more boys with Marsh Marigolds to remind each man who passed of the brooks and meadows as he knew them in his boyhood. Everywhere there were women with a handful of flowers to offer, flowers of the field and garden and wildwood—all with suggestions of the country and the spring. But these are all gone—boys, flowers, and smiling, interested women and the pleasant thoughts suggested. There are some florists' windows left to look into, and these are beautiful, but the plate-glass window will not allow us a touch or smell, and the sight alone brings no thrill of remembrance and delight. Nowadays, when it is held that beauty is a great educating force, should we not protest when so much of it is swept away from the streets where every one can enjoy it?

Boston. *E.*

Recent Publications.

The Genus Masdevallia. Issued by the Marquess of Lothian, K.T., chiefly from plants in his collection of Orchids at Newbattle Abbey. The plates and descriptions by Miss Florence Woolward, with vignette engravings from photographs, and additional notes by Consul F. C. Lehmann, German Consul in the Republic of Colombia. Dedicated by permission to Her Majesty the Queen.

The first two parts of this remarkable book have just been sent out to subscribers, and may be procured from Mr. R. H. Porter, 18 Princes Street, Cavendish Square, London, at the price of £1 10s. each. It is intended to be published in about twelve parts, each containing ten folio plates, and from what we know of its authors we may fairly believe that it will be completed in a reasonable space of time. The genus Masdevallia is one which, on account of the extreme delicacy, beauty and curiosity of its numerous species, and of the difficulty of introducing and cultivating many of them, is of great interest both to botanists and Orchid-growers, and well deserves the pains and skill which have been lavished upon it by the authors, both of whom have done their parts remarkably well. For, though neither of them lays claim to the title of botanist, yet the book is one which will be indispensable both to botanists and horticulturists and to those who love illustrations of beautiful plants. The drawings, lithographs and descriptions are the work of a lady and an amateur, but the book will take high rank among the most beautiful scientific works of the century. Miss Woolward's drawings are not of the style which is affected by some artists of her sex, who sacrifice exactitude of structural detail to artistic effect; they are, on the contrary, of a more botanical character, and though in some cases there is a certain stiffness about them which the artist pure and simple might criticise, yet they are most faithfully drawn and colored from the living examples, and show the curious and minute details of structure in these wonderful plants in a way that no ordinary artist, however skillful, could have done. The Marquess of Lothian, whose love for these delicate plants has led him to devote to their cultivation the leisure snatched from the numerous and pressing engagements of a minister of state, is fortunate in having found an artist of such ability and industry to draw and describe them. We have recently lost Miss North, who was distinguished above all her sex as a traveler and painter of floral beauty, but we may say that in Miss Woolward a most worthy successor has appeared, though her drawings are of a totally different character. It is unusual to find a lady who can look at plants in the truly scientific spirit which Miss Woolward shows, and so far as we know she is the first who has combined with this spirit the power and will to carry out such a work as this in a thorough manner. Laboring under many difficulties which only those who have had experience in similar work can realize, and deprived by the extraordinary will of the late Professor Reichenbach of access to the collection which was almost indispensable to a complete knowledge of this genus of Orchids, it was not possible that this monograph should be absolutely complete; but it is a work which will astonish many who only know the few species of Masdevallia which are found even in large collections of Orchids.

The co-operation of Consul Lehmann, who perhaps of all men knows most of the plants in their native country, and his notes on the climate of the localities where Masdevallias grow, will be of great use to cultivators. The bibliography, synonymy and descriptions appear to be most careful, concise and systematic, the history of the plants is given as far as known at present, and we are sure that any collectors or growers of these plants who possess rare species will do well to communicate with Miss Woolward, and, if possible, send her flowers of unknown or doubtful species.

Such a work as this, together with the excellent manual of Orchidaceous plants which is being published by Messrs. Veitch & Sons, of London, aided by the activity and enterprise of Orchid collectors in South America, will, no doubt, increase the number of amateurs who devote themselves to the study and cultivation of these plants.

The twelfth bulletin of the *Salem Public Library* is devoted to botany, and contains, first, an introduction in which some sound advice on reading in botany is given; second, a special reading-list of botanical works, and third, a special reading-list of works on agriculture and gardening. "Botanical reading," the introduction tells us, "may be of two sorts. We may read to obtain a knowledge of the structure, physiology and uses of plants, or to become acquainted with the plants of certain regions. In either case some general knowledge of the natural divisions of plants is essential, but even before this knowledge can be obtained there must be a thorough understanding of the simple elements of botany, so that the terminology of certain advanced books may be readily comprehended, for in every branch of science there are terms which must be continually used, and the author must take for granted a certain amount of elementary knowledge on the part of the reader of the methods of treating the subject. Botanical reading—in fact, all reading on subjects of natural history—should be accompanied by continual examinations of specimens, living specimens wherever possible, in the case of plants and animals, with the aid of a magnifying-glass when required." And the bulletin goes on, sensibly, to insist "that the gardener, florist, woodsman and carpenter will work more intelligently with the aid of a course of botanical reading. Our walks to and from business in our city streets can be made more interesting, and the study of their daily changes and growth will awaken a desire to know more of plant-life generally—at least, to cultivate a quality of observation." The special reading-lists seem to us to be admirably selected and to cover the entire field, embracing not only physiological and structural botany, but such special subjects as the Evolution of Plants, Descriptive Botany, Trees (American and Foreign), Grasses, Cryptogams, Ferns, Mosses,

Lichens, Fungi, Algæ, Geographical Distribution of Plants, Local Floras of Essex County, and the Floras of the principal geographico-botanical regions of the earth, Fossil Botany, Economic Botany, Folk-lore, a list of serials, works on Floriculture, Landscape-gardening, Forestry and Fruit-raising. Altogether, this is one of the most intelligently prepared and helpful aids to a study of botany which have yet come to our notice.

Notes.

Owing to the appearance of the Phylloxera in California, Grape-vines from North America are now rigidly excluded from the territory of the French Republic.

Mr. H. E. Van Deman, Pomologist of the Department of Agriculture, writes to the *Florida Agriculturist* to protest against the use of the name Grape-fruit and to insist upon the name Pomelo, which is appropriate, distinctive and the one commonly used in the East Indies for the delicious fruit which is found in increasing quantity every year in our northern markets.

We have seen no more beautiful Pansies this year than some which were sent to this office by Mr. D. K. Herr, of Lancaster, Pennsylvania, and which were grown out-of-doors in ordinary garden-soil. The delicate markings in some of the newer strains of Pansies, like Bugnot's and the improved Trimardeau, are among the most interesting products of carefulness and skill in selecting and cultivating garden-flowers.

The correspondent of the London *Garden* writes of the Waban Rose, which was exhibited at Drill Hall not long since, that it fully justifies the praise it has received in this country, retaining as it does the matchless form of Catharine Mermet, of which it is a sport, and a color some shades deeper. It is predicted that, like The Bride, another sport from the same variety, it will be esteemed among the choicest of the tea-scented Roses.

A great many of the ordinary bedding-plants, like Zonal Pelargoniums, Heliotropes, Verbenas, etc., receive a severe check or die outright if they are suddenly exposed to the outdoor weather, especially when cold rains or high winds follow. All plants of this sort should be gradually hardened off until they are inured to outdoor conditions. When tender plants are taken out of the house or pit and placed in the open ground the common mistake of watering them too freely should not be made.

The editors of the *Revue Horticole*, in speaking of the different varieties of the Althea (Hibiscus Syriacus), remark that the single flowers are generally the brightest in color. The pure white variety, known as Totus albus, is considered the best, and the following double and single varieties are recommended: Albus plenus, Pompon pourpre, Purpureus plenus foliis variegatis, Céleste, Lady Stanley, Duc de Brabant, Charles Breton, Pæoniœflora, Leopoldi, Comte de Hainaut, Ranunculiflorus albus, Violet simple, Cœlestis simple, Speciosa rubra, Violacea variegata, Carnea plena.

Commenting editorially upon the proposition that a special exhibit of roadways, pavements and road-making processes and materials shall be made a prominent feature of the World's Fair at Chicago, the *American Architect* says that such a display would come under the eyes of myriads of our fellow-countrymen "who have never seen a decent road and have no conception of the method of making one. If the exhibition should contain nothing but this, it would be worth holding, for it is no exaggeration to say that the question of roads is the most important one to be solved in this country."

In the *Transactions of the Indiana Horticultural Society* for last year, which has just been received, there is a list of the trees of that state prepared by Professor Coulter, of Purdue University. One hundred and eight species belonging to fifty-two genera are mentioned, so that Indiana is behind several of the other states in the variety of its arborescent flora, and notably of Arkansas, which has one hundred and twenty-seven species on the list made by Professor Harvey. There are few states, however, where so many of the trees attain so large a size. Forty-two species are named which attain a height of a hundred feet or more in the Lower Wabash Valley, and thirteen are mentioned as growing more than one hundred and fifty feet high. The figures are taken from actual measurement, but since few trees were measured, compared with the vast number of matured trees which are cut down in a single year, Professor Coulter thinks that it is quite improbable that the largest individual of any species which has stood in the Wabash Valley within the last twenty-five years has been measured. The tallest tree mentioned is a Tulip Poplar, which was one hundred and ninety feet high. This tree was twenty-five feet in circumference above the swell of the roots, and the height of the trunk to the first branch was ninety-one feet. The next tallest tree measured was a Scarlet Oak, the third a Pecan, and the fourth a Cottonwood.

At a recent meeting of the Nantucket Improvement Association a vote was passed urging upon the members of the Congressional delegation of Massachusetts to resist all attempts to encroach on the public lands of the Yellowstone Park reservation, and quoting from the article which appeared in these columns on the 20th of April last, the resolution goes on to declare that, "This reservation is important as a means of protecting the head-waters of one of the largest and most useful rivers of the country; as a region where some of the grandest scenery of the world is located; as an extensive tract of forest, mountain and valley in which may be preserved, for all time, fine and numerous specimens of the flora and fauna of the Rocky Mountain regions." The Nantucket Improvement Association, which last year was active in creating public interest in national forest-preservation, is now urging all organizations similar to its own to appeal to members of Congress "in order to secure the general and widespread expression of a desire for the protection of the public interests against personal encroachments upon the same."

We have heard it suggested several times recently that the spring coloring of the foliage of the trees is more beautiful than it was in former years, and inquiry has been made whether there is not some climatic change either in the character of the winters or perhaps in the autumn, when the wood ripens, to produce this effect. It is very difficult to remember one year just how the trees looked a year ago, and it is probably the truth that the leaves are no more beautiful this spring than they were last. Perhaps it is true that there is a growing admiration and affection for natural beauty, and it certainly is true that there is a growing taste for more delicate tints and textures. The autumn woods have a glory of their own which compels the admiration of every one, but the soft spring colors make an equally impressive appeal to the eye and to the imagination. Of course, the tender greens predominate, but yet they appear in a variety which is almost infinite, while the bronze of the White Maples, especially when the sun is shining through the leaves, has a marvelous depth and richness. No words will avail to describe the tender pink on the border of the young leaves of the White Oaks, which is subdued as if it had a veil thrown over it so as to make it blend more perfectly with the soft silvery gray of the body of the leaves. This delicacy of coloring is matched by the exquisite and downy fineness of the surface texture of the foliage, and the almost fragile beauty of the tint and tissue of the leaves is heightened by its contrast with the gnarled and sturdy strength of the tree which bears them.

English lovers of the Daffodil have begun to inquire whether the newer varieties which are put on the market every year are really improvements on the old sorts. Some of these novelties are said to have feeble flowers of little substance and a delicate appearance, quite inferior to the rich yellow color and noble bearing of the older kinds. Again, in the rage for something new, the trumpets of some of the recent kinds have been developed into shapes that are almost monstrous. As developed by nature the flower in color and shape has acquired a perfect balance and complete adaptation to its conditions, and although in many instances human selection may transform wild flowers into something more beautiful than the original, yet there is a point beyond which change does not seem to be improvement. Certainly the wild English Daffodil or the Poet's Narcissus, which are both natural forms, are lovely enough, so that it is hardly worth while to pay enormous sums for bulbs that bear less beautiful than these simply because they are new. Buyers are now confused by hundreds of different sorts which are sold under fancy names, when perhaps a dozen, or at most twenty, distinct types for varied and successive planting will answer most purposes for ordinary gardens. While all this is true, there is another view of the case. It is this care for nice distinctions which stimulates observation and study among those who become authorities in judging and cultivating any class of flowers. They not only take pleasure in noting all the varietal peculiarities of their chosen flowers, but others learn from them, and it is to specialists, after all, to whom we look for the advancement of horticulture in all its branches.